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MARKET CLASSES AND GRADES
OF CALVES AND VEALERS

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Bureau of Agricultural Economics



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CALVES AND VEALERS DIFFERENTIATED

At practically all important central livestock markets a day's supply of livestock ranges from several hundred up to several thousand head of young, immature animals of the bovine species. These animals in the past have been and still are designated and known by various terms and names at different markets. At some markets all such animals are termed calves, whereas at other markets they are called vealers, and at still other markets, usually the larger, more highly developed and specialized markets, part of them are known as calves and part as vealers.

When these immature bovine animals are classified and graded in accordance with the system of tentative standard market classes and grades adopted by the Bureau of Agricultural Economics, which is at present more or less generally recognized by the trade at many of the large central markets, they naturally fall into two rather distinct groups. This is true largely because, when slaughtered, they produce two more or less distinct kinds of meat.

As a general rule, immature bovine animals 3 months or less in age produce a dressed carcass the meat of which is distinctly different from that obtained from young bovine animals which are older. The meat produced by a large percentage of immature bovine animals which are approximately 3 months or less in age is known in

the wholesale and retail meat trade as veal, whereas the carcasses produced by most of the immature bovine animals which are over 3 months old are known in the wholesale and retail meat trade as calf carcasses.

These differences in the two kinds of meat—veal and calf carcasses—are not entirely the result of the animal's age, but are due partly to the different kinds of feed which have made up the major part of the animal's ration during the greater part of its existence. Other factors being equal, the best veal carcasses are produced from animals which have been fed on whole milk exclusively and as a rule the quality of such meat varies directly with the proportion of whole milk contained in their ration.

Beyond approximately 3 months of age the meat of practically all immature bovine animals takes on many of the characteristics of meat which is produced by feeds other than milk, although, as a rule, it also shows to a greater or less extent at least some of the characteristics which come from feeding milk.

On the market it is usually impossible to determine either the exact age of an animal or just how its carcass will look, hence, there is no hard and fast line separating the two groups. But experienced and expert stockmen can determine both matters with a high degree of accuracy.

DEFINITION OF TERMS

In view of the foregoing facts and for purposes of this bulletin the following definitions may be understood:

A calf is an immature bovine animal which for a considerable period of time has subsisted in part or entirely on feeds other than milk.

A vealer is an immature milk-fed bovine animal usually not over 3 months of age.

In the standards for market classes and grades of calves and vealers herein set up, conformation, finish, and quality are used as the basis for grade. When used in this bulletin the following definitions of these terms are understood.

CONFORMATION

Conformation is the build, shape, outline, or contour of the animal. It is due largely to the size and shape of the bones and muscles and the proportions between the different parts of the animal, such as neck, shoulder, crop, back, loin, rump, etc. Hence, conformation is chiefly attributable to breeding, but sex condition exerts a powerful influence except in the case of very young animals. The fat covering or degree of finish is responsible for marked modifications of conformation, hence feeding and care have an important bearing. Standards of conformation depend, for practical purposes, upon the immediate use to which the animal is to be put. Grade for grade, a smoother and more rounded conformation, largely the result of finish or fat, is generally demanded in animals sold for immediate slaughter than in those which are to be used for feeder and stocker purposes.

Conformation is important because it influences to a considerable extent the proportion of carcass weight as related to the live weight,

or, in other words, the dressing percentages which the animal will have when slaughtered. It is of further importance because it determines, more than does any other factor, the percentage of flesh, both lean and fat meat, particularly the percentage of lean in the flesh, which the carcass of an animal will have when slaughtered. Its chief significance lies in the fact that it determines the percentage of the higher-priced cuts of meat as opposed to the lower-priced cuts which the animal will finally produce.

The conformation of calves and vealers involves the build or shape of the animal together with its thickness and evenness of fleshing.

Calves and vealers when considered as one group present a wide range of variation with respect to these three aspects of their conformation.

In build or shape they may be rectangular and compact to a greater or lesser degree, or they may be angular and rangy to a larger or smaller extent. The rectangular animal is one which has top lines and underline which tend to be straight and level, with lines of the sides which tend to be straight and parallel.

The angular animal is one which has top lines and underlines that tend to be irregular and oblique, with lines of the sides which have like characteristics.

The compact animal is relatively wide and deep in proportion to length of body, with a relatively short, wide head. It has a short, thick neck and legs which are relatively short in proportion to depth of body and which are more or less heavily muscled and wide apart.

The rangy animal is relatively narrow and shallow in proportion to length of body, with a relatively long, narrow head. It has a long, thin neck, and legs which are relatively long in proportion to depth of body and which are more or less lightly muscled and close together.

In fleshing (flesh meaning both the fat and lean meat) calves and vealers may be thickly fleshed to a greater or lesser degree or they may be thinly fleshed to a smaller or greater extent. In the thick-fleshed animal the lines of each part are more or less full and rounded out. In the thin-fleshed animal the lines of each part are depressed or sunken to a lesser or greater degree.

Evenness of fleshing refers to the thickness of flesh covering the different parts of the animal such as shoulders, back, loin, rump, thigh, and twist. The flesh is naturally thicker in some parts than in others. For example, the thigh and twist are usually the thickest fleshed parts. The fleshing of some animals is much more uniform and even in thickness than that of other individuals. An animal which is evenly fleshed tends to be of the same or uniform width from the fore to the rear part of its body, whereas the animal which is unevenly fleshed varies to a lesser or greater extent in width of body. For example, the body may be considerably less wide through the shoulders and back than through the loin and rump or it may be lacking in width of loin and back as compared with width of shoulders and rump.

FINISH

Finish is fat. It includes both the fat on the outside of the animal's body and on the inside of the abdominal and thoracic cavities as well as the intermuscular fat. Naturally in the live

animal the interior fat can be judged only by analogy. Finish involves the quantity, quality, and distribution of fat. It is dependent somewhat upon inherited tendencies or breeding and to a certain extent on sex condition and age, but in the main it depends upon the quantity, kind, and quality of feed and upon methods of handling and care.

Finish is important because in most animals it influences probably more than does any other factor, the proportion of carcass weight as related to live weight or dressing percentage of an animal. It also determines to a great extent the amount of intramuscular or intercellular fat which will be found within the muscle or lean meat of the animal and it influences greatly the percentage of flesh to bone and the varying percentages of lean, fat, bone, and connective tissue which the animal will have in its carcass when slaughtered.

The finish of calves and vealers involves the fat covering of the animal and the quality of its fat. The fat covering of calves and vealers is naturally thicker on some parts than on other parts of the body. On the very fat animal the fat is usually thickest over the brisket, in the flank, and in the crotch, and there is a moderately thick fat covering over the back and loin and a considerable thickness of fat over the top of the shoulders and the rump. As a general rule the quality of the fat of calves and vealers is directly correlated with its degree of thickness; that is, the greater the thickness the higher the quality of the fat. Hence, the degree of finish of calves and vealers depends almost entirely upon the varying degrees of thickness of the fat covering which is found over certain parts of the animal's body.

When considered as one group either slaughter calves, feeder and stocker calves, or vealers present a rather wide range of variation with respect to these two aspects of their finish. Comparatively speaking, the fat covering may be thick to a greater or lesser degree or it may be thin to a smaller or larger extent. The animal with a thick fat covering is smooth to a lesser or greater extent over the shoulder, back, loin, hips, and rump and has a less or greater degree of fullness in the brisket, the flanks, and in the crotch around the udder, cod, or scrotum. The animal with a thin fat covering is rough to a lesser or greater extent over the shoulder, back, loin, and rump and the bones of its shoulders, hips, and much of the backbone have a lesser or greater degree of prominence. A lesser or greater degree of emptiness of such parts as the brisket and flanks and in the crotch around the udder, cod, or scrotum is also characteristic of animals with a thin fat covering or low degree of finish.

QUALITY

Quality is a characteristic of the muscle or lean meat of the animal and of the intramuscular and intercellular fat contained therein. It involves also the relative size, shape, and condition of the bones and the ratio of bone to muscle and fat. In animals intended for further feeding, quality involves still another characteristic, one which, though of great importance, is rather intangible and difficult to describe fully, namely, the ability to take on added weight economically. This is not a concrete thing but rather an inherited trait or tendency.

Quality in a live animal is difficult to describe. By experienced stockmen it can, however, be judged with fair accuracy from certain external evidences, such as fineness and softness of hair, thickness and pliability of hide, width of muzzle, refinement of head, and other characteristics. Frequently these external evidences are called quality. When this is done it amounts to mistaking the tangible, external evidences of a thing for the thing itself. Quality is primarily the result of breeding, but it varies greatly with the degree of fatness and age of the individual. Quality is influenced also to a considerable extent by sex condition, the kind of feed the animal has had, and methods of care and handling.

Quality is especially important because the tenderness, palatability, and juiciness of the lean meat of the animal is mainly dependent upon its degree of quality. The tenderness and palatability of the lean meat is for the most part due to the size, strength, and other characteristics of its muscle fiber as related to the percentage or quantity and character of the connective tissue contained therein. The nutritive value of the lean meat depends largely upon the quantity and quality of intramuscular or intercellular fat which it contains. Quality also influences somewhat the proportion of carcass weight to live weight or dressing percentage which the animal will have when slaughtered and to a certain extent the percentage of bone which the carcass will have.

Quality in the live animal is indicated by its breeding, general refinement, size of bone, thickness, and pliability of hide, fineness and condition of hair, its degree of finish, its age, and, to a certain extent, its sex condition, and a few other special physical characteristics which are more or less significant.

When considered as one group, calves and vealers present a rather wide range of variation with respect to these different physical characteristics involved in quality.

Some individuals have the physical characteristics peculiar to animals of beef-type breeding to a lesser or greater extent, whereas others have the physical characteristics resulting from dairy-type, scrub, or nondescript breeding to a lesser or greater degree. Some animals have an ideal degree of refinement, the bones of the legs being of medium size and the hide of medium thickness; others range from a slight to an extreme degree of refinement or coarseness, the bones of the legs ranging from slightly too small to extremely small or from slightly too coarse to extremely coarse, and the hide from slightly too thin to extremely thin or from slightly too thick to extremely thick. The hide of different animals is pliable to a lesser or greater extent, whereas that of other individuals is more or less unpliant. The hair of some animals is more or less fine, silky, and glossy, whereas the hair of others is coarse, dry, and harsh to a lesser or greater extent.

Different animals have a moderately high to a very high degree of finish and others a slightly low to an extremely low degree of finish. These varying degrees of finish may accompany quite similar degrees of quality.

MARKET USES FOR CALVES

Practically all large central markets receive a considerable number of calves on each marketing day throughout the year, although at

some markets calves make up a much larger percentage of the total receipts of bovine stock than at others. The principal markets for calves are, as a rule, those which are located nearest the range country, particularly the southwestern part of the range territory. Consequently, Fort Worth, Kansas City, and East St. Louis receive larger numbers of calves than most of the other large markets. During the late summer and fall months receipts of calves at these markets are especially large. As a rule, calves that are received at these and other markets, such as Omaha, St. Joseph, Denver, and Sioux City, which are located nearest the range country, are of the better grades, whereas calves received at South St. Paul, Milwaukee, Chicago, and other markets located nearest the principal dairy sections of the country are largely of the lower grades.

When calves are traded in for meat-production purposes they naturally are divided into two major groups according to the use for which they are bought and sold, namely slaughter calves and feeder and stocker calves. From the market viewpoint, slaughter calves constitute the more important of these two major groups. The market classes and grades of slaughter calves will be considered first.

SLAUGHTER CALF SCHEDULE

Slaughter calves may be defined as immature bovine animals, which for a considerable length of time have subsisted in part or entirely on other feeds than milk, that are bought and sold for immediate slaughter. This designation covers any calf which will produce meat that is wholesome and fit for human food.

Calves, when slaughtered, produce calf carcasses and considerable amounts of by-products, the most important of which are the hide and edible offal, such as the liver, tongue, heart, sweetbreads, and fat. The carcasses as well as the by-products obtained from calves vary widely both in quantity and quality.

Experience has shown that there is a high degree of correlation between (1) the weight and the physical characteristics which were described under conformation, finish, and quality, possessed by calves and (2) the weight and grade of the carcass and other products obtained from them when slaughtered. Therefore, on the market, calves having different weights and different degrees of conformation, finish, and quality have different values and usually sell at prices which reflect accurately the weight and the grade of the carcass and by-products which they will produce. Thus certain market classes, weight-selection groups, and grades of slaughter calves have arisen which are rather generally recognized in the trade at most of the large central livestock markets. These have been incorporated into the system of tentative market classes and grades of slaughter calves shown in the following schedule. It is hoped that this schedule may eventually become standard.

Slaughter calf schedule

Class	Weight selection	Grade
Steers.....	Lightweight..... 200 pounds down.	{ Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Mediumweight..... 200 to 300 pounds.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Heavyweight..... 300 pounds up.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
Heifers.....	Lightweight..... 200 pounds down.	{ Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Mediumweight..... 200 to 300 pounds.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Heavyweight..... 300 pounds up.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
Bulls.....	Lightweight..... 200 pounds down.	{ Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Mediumweight..... 200 to 300 pounds.	{ Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Heavyweight..... 300 pounds up.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.

CLASSES OF SLAUGHTER CALVES

A market class of slaughter calves consists of a lot or group of slaughter calves in which each individual has the same sex condition. There are three classes of slaughter calves—steer, heifer, and bull.

In time, sex condition causes marked changes in the conformation, finish, and quality of an animal, which changes are reflected in the quantity and quality of the carcass of meat and by-products obtained from it. In the case of very young calves, sex condition has not had time to cause material modification in their conformation, finish, and quality. Hence, in many instances the trade disregards the class. In such cases the calves are sold largely on the basis of weight and grade without regard to their sex condition.

WEIGHT SELECTIONS OF SLAUGHTER CALVES

Slaughter calves, as a whole, display considerable variation in weight. Much of this range in weight is the result of a difference

in age but a large part of it is due to differences in breeding, feeding, handling, and care. The live weight of the animal, other things being equal, largely determines the weight of the carcass as well as the weight and size of the wholesale and retail cuts which the carcass will produce. Prices of slaughter calves of different weights reflect the wide range of prices received in the wholesale and retail meat trade for carcasses, and for wholesale and retail cuts of different weight and size. Accordingly on the live market, weight is a price factor of great importance and slaughter calves are often sorted according to their weight into several different lots which in this bulletin are designated as weight selections.

A weight selection of slaughter calves may be defined as a number or lot of slaughter calves in which the weight of each individual composing the lot falls within certain specified limits.

The weight selections which are in more or less general use at the most highly developed and specialized livestock markets at the present time are shown in the schedule of slaughter calves, page 7.

GRADES OF SLAUGHTER CALVES

Weight selections enable slaughterers to buy slaughter calves of any desired weight. Thus they obtain carcasses of the weight which will in turn produce wholesale and retail cuts of the desired weight and size. But as calves of any given weight selection vary widely in grade, slaughterers must also buy calves of various grades that will produce carcasses and cuts of grades with which to supply the varying demands of their patrons.

In the final analysis, therefore, all slaughter calves are bought and sold largely on the basis of their grade. Accordingly, as the final step in the classifying and grading process, the weight selections are often sorted into a number of grades.

The grade of an animal is determined by its degree of merit for a given market use, as shown by the degrees of conformation, finish, and quality which it possesses.

There are six grades of slaughter calves: Prime or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, and Cull or No. 5.

VEALER SCHEDULE

Vealers, when considered in this bulletin, consist of a group of immature milk-fed bovine animals usually not over 3 months of age.

When slaughtered, vealers produce veal which usually is distinctly different from the meat produced by calves or cattle. Vealers also produce considerable amounts of by-products, the most important of which are the hide and edible offal, such as the liver, tongue, heart, sweetbreads, and fat.

The carcass and the by-products obtained from vealers vary widely both in weight and grade. It has been demonstrated by experience that there is a high degree of correlation between (1) the weight and the conformation, finish, and quality of vealers, and (2) the weight and grade of the carcass and other products obtained when they are slaughtered. Because of these facts vealers having different weights and different degrees of conformation, finish, and quality have different values on the market and usually sell within a spread of prices

which reflect more or less accurately the weight and grade of the carcass and other products which they will produce when slaughtered. Thus certain weight-selection groups and grades of vealers have arisen which are rather generally recognized in the trade at many of the large central livestock markets. These have been incorporated in the following schedule. It is hoped that this schedule may eventually become standard.

At most livestock markets vealers make up a fairly large percentage of the receipts of livestock of the bovine species. The principal markets for vealers are, as a rule, those which are located nearest those sections of the country where dairying is one of the chief farming activities. For example, such markets as Chicago, South St. Paul, Milwaukee, Detroit, Buffalo, and Jersey City are outstanding for the number of vealers included in their livestock receipts. During the late spring and early summer months, receipts of vealers at these and other markets are generally at their height, but considerable numbers of them are generally on sale each marketing day throughout the year.

As a general rule, vealers are traded in at the market for one market use only—that of slaughter. Hence, only the market classes and grades of vealers as related to their market use as slaughter animals are considered in this bulletin.

Vealer schedule

Class	Weight selection	Grade
Vealers.....	Lightweight..... 110 pounds down.	{ Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Mediumweight..... 110 to 180 pounds.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4. Cull or No. 5.
	Heavyweight..... 180 pounds up.	{ Prime or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3.

CLASSES OF VEALERS

It will be noted from the schedule that vealers are not divided into classes. If any useful purpose were to be accomplished by so doing, vealers could be divided into three market classes as are calves—that is, into steers, heifers, and bulls. But practically no vealers are found on the market which are steers and as all vealers are very young their sex condition has not had sufficient time to exert a material influence on their physical characteristics. Hence, vealers of different sex conditions do not have differences of conformation, finish, and quality which are sufficiently large to justify their division into classes.

In spite of this fact, it probably is true that, taken as a whole, male vealers will average slightly higher than females in their de-

gree of conformation, whereas females will average slightly higher than do males in their degree of finish. There will probably be little or no difference in the degree of quality between male and female vealers. Because of these facts, little, if any, attention is paid to the sex condition or class of vealers on the market and they are usually bought and sold wholly on the basis of weight and grade.

WEIGHT SELECTIONS OF VEALERS

Vealers do not vary greatly in age. Practically all of them are at least 3 weeks old and relatively few are over 3 months old. Hence, they do not have a very wide range in weight; only a relatively small percentage of them weigh less than 100 pounds or more than 200 pounds. Most of the range in weight is due to differences in age, but a considerable part of it is the result of differences in breeding, feeding, handling, and care.

The live weight of the animal within a grade largely determines the weight of the carcass as well as the weight and size of the wholesale and retail cuts which the carcass will produce. Prices of vealers of different weights reflect the generally wide range of prices received in the wholesale and retail meat trade, for carcasses, and for wholesale and retail cuts of different weights and sizes. Accordingly, on the live market, weight is a price factor of great importance and vealers are often sorted into several lots according to their weight and these lots are designated as weight selections.

A weight selection of vealers consists of a group of vealers in which the weight of each individual composing the group falls within certain specified limits.

The weight selections of vealers which are most generally recognized at the present time are shown in the vealer schedule, page 9.

GRADES OF VEALERS

The weight selections enable slaughterers to buy vealers of any desired weight. Thus they obtain carcasses of the weight which, in turn, will produce wholesale and retail cuts of the desired weight and size. But as vealers of any given weight selection vary widely in grade, slaughterers must also buy vealers of various grades that will produce carcasses and cuts of grades with which to supply the varying demands of their patrons.

In the final analysis, therefore, vealers are bought and sold largely on the basis of their grade. Accordingly, as the final step in the classifying and grading process, the weight selections of vealers often are sorted into a number of grades.

The grade of an animal is determined by its degree of merit for a given market use as shown by the degrees of conformation, finish, and quality which it possesses.

There are six grades of vealers: Prime or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, and Cull or No. 5.

The grades of slaughter calves and vealers are based upon and are directly correlated with the grades of the carcasses and other products which they will produce when slaughtered. A detailed explanation of the way in which the grades of slaughter calves and vealers may be arrived at, and a grading chart which graphically illustrates the various grades of slaughter calves and vealers, follow.

SLAUGHTER CALF AND VEALER GRADING CHART

Lot No.----- Individual No.----- Age----- Weight----- Breed----- Class----- Date----- Grade----- Town----- State-----

Description of slaughter animal	Values assigned to parts and grade factors	Prime or No. A1 (range 100 to 90 per cent)			Choice or No. 1 (range 90 to 80 per cent)			Good or No. 2 (range 80 to 70 per cent)			Medium or No. 3 (range 70 to 60 per cent)			Common or No. 4 (range 60 to 50 per cent)			Cull or No. 5 (range 50 to 40 per cent)			Total score of animal	
		Top 98.33%	Medi-um 95.00	Low 91.66%	Top 88.33%	Medi-um 85.00	Low 81.66%	Top 78.33%	Medi-um 75.00	Low 71.66%	Top 68.33%	Medi-um 65.00	Low 61.66%	Top 58.33%	Medi-um 55.00	Low 51.66%	Top 48.33%	Medi-um 45.00	Low 41.66%		
General description:	Conformation—		Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.		
		Compactness-----	1.97	Very compact	1.90	1.83	1.77	Compact	1.70	1.63	1.57	Moderately compact	1.50	1.43	1.37	Slightly rangy	1.30	1.23	1.17	Very rangy	Extremely rangy
		Width-----	1.48	Very wide	1.42	1.38	1.32	Wide	1.28	1.22	1.18	Moderately wide	1.12	1.08	1.02	Slightly narrow	.98	.92	.88	Very narrow	Extremely narrow
		Depth-----	1.48	Very deep	1.42	1.38	1.32	Deep	1.28	1.22	1.18	Moderately deep	1.12	1.08	1.02	Slightly shallow	.98	.92	.88	Very shallow	Extremely shallow
	Top line-----	1.00	Straight and level	.98	.95	.92	Straight and level	.88	.85	.82	Tends to be straight and level	.78	.75	.72	Slightly irregular and oblique	.68	.65	.62	Very irregular and oblique	Extremely irregular and oblique	
	Underline-----	1.00	Straight and level	.98	.95	.92	Straight and level	.88	.85	.82	Tends to be straight and level	.78	.75	.72	Slightly irregular and oblique	.68	.65	.62	Very irregular and oblique	Extremely irregular and oblique	
	Side lines-----	1.00	Straight and parallel	.98	.95	.92	Nearly straight and parallel	.88	.85	.82	Tends to be straight and parallel	.78	.75	.72	Slightly irregular and oblique	.68	.65	.62	Very irregular and oblique	Extremely irregular and oblique	
	Total 1-----	8.00	7.86%	7.60	7.33%	7.06%	6.80	6.53%	6.26%	6.00	5.73%	5.46%	5.20	4.93%	4.66%	4.40	4.13%	3.86%	3.60	3.33%	
	Finish—	Thickness-----	3.00	Very thick	2.95	2.85	2.75	Thick	2.65	2.55	2.45	Moderately thick	2.35	2.25	2.15	Slightly thin	2.05	1.95	1.85	Very thin	Extremely thin
		Fullness of brisket-----	2.00	Very full	1.97	1.90	1.83	Full	1.77	1.70	1.63	Moderately full	1.57	1.50	1.43	Slightly deficient	1.37	1.30	1.23	Very deficient	Extremely deficient
		Fullness of flank-----	2.00	Very full	1.97	1.90	1.83	Full	1.77	1.70	1.63	Moderately full	1.57	1.50	1.43	Slightly deficient	1.37	1.30	1.23	Very deficient	Extremely deficient
		Fullness of twist-----	2.00	Very full	1.97	1.90	1.83	Full	1.77	1.70	1.63	Moderately full	1.57	1.50	1.43	Slightly deficient	1.37	1.30	1.23	Very deficient	Extremely deficient
		Total 1-----	9.00	8.85	8.55	8.25	7.95	7.65	7.35	7.05	6.75	6.45	6.15	5.85	5.55	5.25	4.95	4.65	4.35	4.05	3.75

¹Individual items were rounded and, therefore, do not add exactly to the totals.

SLAUGHTER CALF AND VEALER GRADING CHART—Continued

Description of slaughter animal	Values assigned to parts and grade factors	Prime or No. A1 (range 100 to 90 per cent)			Choice or No. 1 (range 90 to 80 per cent)			Good or No. 2 (range 80 to 70 per cent)			Medium or No. 3 (range 70 to 60 per cent)			Common or No. 4 (range 60 to 50 per cent)			Cull or No. 5 (range 50 to 40 per cent)			Total score of animal
		Top 98.33%	Medium 95.00	Low 91.66%	Top 88.33%	Medium 85.00	Low 81.66%	Top 78.33%	Medium 75.00	Low 71.66%	Top 68.33%	Medium 65.00	Low 61.66%	Top 58.33%	Medium 55.00	Low 51.66%	Top 48.33%	Medium 45.00	Low 41.66%	
General description—Con. Quality—Refinement	4.00	Per ct. 3.93	Per ct. 3.80	Per ct. 3.67	Per ct. 3.53	Per ct. 3.40	Per ct. 3.27	Per ct. 3.13	Per ct. 3.00	Per ct. 2.87	Per ct. 2.73	Per ct. 2.60	Per ct. 2.47	Per ct. 2.33	Per ct. 2.20	Per ct. 2.07	Per ct. 1.93	Per ct. 1.80	Per ct. 1.67	
	2.00	Moderately thick, very pliable			Moderately thick and pliable			Slightly too thick or thin, moderately pliable			Much too thick or thin, slightly unpliant			Very thick or thin, very unpliant			Extremely thick or thin, extremely unpliant			
	1.50	Very fine			Fine			Moderately fine			Slightly coarse			Very coarse			Extremely coarse			
	1.50	Medium size			Medium size			Slightly too large or small			Much too large or small			Very large or small			Extremely large or small			
	1.50	Very firm			Firm			Moderately firm			Slightly soft			Very soft			Extremely soft			
	3.00	Very desirable			Desirable			Moderately desirable			Slightly undesirable			Very undesirable			Extremely undesirable			
	1.00	.98 .95 .92			.88 .85 .82			.78 .75 .72			.68 .65 .62			.58 .55 .52			.48 .45 .42			
	Total 1	13.00	12.78%	12.35	11.91%	11.48%	11.05	10.61%	10.18%	9.75	9.31%	8.88%	8.45	8.01%	7.58%	7.15	6.71%	6.28%	5.85	5.41%
	Total general description 1	30.00	29.50	28.50	27.50	26.50	25.50	24.50	23.50	22.50	21.50	20.50	19.50	18.50	17.50	16.50	15.50	14.50	13.50	12.50
	Detailed description: Head—Conformation	1.00	Very short and wide			Short and wide			Moderately short and wide			Slightly long and narrow			Very long and narrow			Extremely long and narrow		
1.50		Very short and thick			Short and thick			Moderately short and thick			Slightly long and thin			Very long and thin			Extremely long and thin			
.50		Very full			Full			Moderately full			Slightly deficient			Very deficient			Extremely deficient			
.50		Very thick			Thick			Moderately thick			Slightly thin			Very thin			Extremely thin			
7.00		Very wide			Wide			Moderately wide			Slightly narrow			Very narrow			Extremely narrow			
7.00		6.88 6.65 6.42			6.18 5.95 5.72			5.48 5.25 5.02			4.78 4.55 4.32			4.08 3.85 3.62			3.38 3.15 2.92			
7.00		Moderately thick			Slightly thin			Thin			Very thin			Extremely thin			None			
7.00		6.88 6.65 6.42			6.18 5.95 5.72			5.48 5.25 5.02			4.78 4.55 4.32			4.08 3.85 3.62			3.38 3.15 2.92			
7.00		6.88 6.65 6.42			6.18 5.95 5.72			5.48 5.25 5.02			4.78 4.55 4.32			4.08 3.85 3.62			3.38 3.15 2.92			
7.00		6.88 6.65 6.42			6.18 5.95 5.72			5.48 5.25 5.02			4.78 4.55 4.32			4.08 3.85 3.62			3.38 3.15 2.92			

EXPLANATION OF SLAUGHTER CALF AND VEALER GRADING CHART

In the chart the animal which is considered ideal or perfect for the market use of slaughter has been assigned a value of 100 per cent. Such an animal would have that degree of conformation, finish, and quality which experience has proven to be ideal or perfect.

The opposite of this animal, or the one which is thought to have the lowest possible degree of merit for the market use of slaughter, has been assigned a value of 40 per cent. Such an animal would have that degree of conformation, finish, and quality which experience has proven to be the most undesirable possible. Thus the total difference between the animal which is considered best, or the one having the highest possible degree of conformation, finish, and quality for the market use of slaughter, and the animal which is the poorest, or the one having the lowest possible degree of conformation, finish, and quality for the market use of slaughter, is represented by a range of 60 per cent. This range represents the difference between the best animals of the Prime or No. A1 grade and the poorest animals of the Cull or No. 5 grade.

This range of 60 per cent, illustrating the difference between the best and poorest animals, has been divided into six equal parts, each having a range of 10 per cent. Each of these divisions represents one of the six recognized grades of slaughter calves and vealers. For example, the range of 10 per cent extending from 100 down to 90 per cent represents the Prime or No. A1 grade and the range of 10 per cent included between 90 and 80 per cent represents the Choice or No. 1 grade. Each of the other grades is represented by a range of 10 per cent. This emphasizes the fact that each grade has a certain range or width with upper and lower limits.

On the chart the range of width of each grade has been further divided into three equal parts, designated as percentage grade divisions, each of which is represented by a certain definite percentage. For example, the range of 100 down to 90 per cent representing the Prime or No. A1 grade, has been divided into three equal parts, which may be considered as top, medium, and low Prime or No. A1 grades. The upper third of the grade has a range of 3.33 per cent extending from 100 down to 96.67 per cent and is represented on the chart by 98.33 per cent, the middle point between 100 and 96.67 per cent, or the half way mark or average of the upper third of the grade or top Prime or No. A1. The middle third of the grade or medium Prime or No. A1 has a range or width of approximately 3.33 per cent extending from 96.67 down to 93.33 per cent and is represented by 95 per cent or the half way point or average of the middle third of the grade or medium Prime or No. A1. The lower third of the grade or low Prime or No. A1 grade has a range or width of 3.33 per cent which extends from 93.33 per cent down to 90 per cent and is represented by 91.67 per cent, the middle point or average of the lower third of the grade or low Prime or No. A1.

The grade of a slaughter animal is arrived at by judging its degree of merit for the market use of slaughter (1) from the standpoint of general appearance and (2) from the degree of perfection of each of the various parts of the animal. Accordingly, on the

chart a value of 30 per cent has been given to the general description and a value of 70 per cent has been assigned to the detailed description, making the total of 100 per cent, which represents the animal which is considered as ideal for the market use of slaughter.

The total of 30 per cent assigned to the general description of the animal has been divided into three major parts, representing the general conformation, finish, and quality of the animal and a value has been assigned to each. General conformation has a value of 8 per cent, finish 9 per cent, and quality 13 per cent. An animal's conformation is judged from its degree of perfection as regards compactness, width, depth, top line, underline, and side lines. Consequently, in the order given, these physical characteristics or factors of an animal's conformation have been assigned values of 2, 1.5, 1.5, 1, 1, and 1 per cent, making a total of 8 per cent which is assigned to general conformation on the chart.

In like manner, values have been assigned to the different physical characteristics or factors considered when judging the animal's finish and quality. These factors and the values assigned to each appear on the chart.

The total value of 70 per cent assigned to the detailed description of the animal has been divided into 16 different parts, or the number of the parts of the animal which are each judged separately, and a definite value or percentage has been assigned to each of these parts. In arriving at the value to be assigned to each of the parts, the importance of the part as related to the carcass as a whole was considered carefully (1) from the standpoint of the quantity and (2) from the standpoint of the quality of the meat obtained from the part. This was done by correlating the different parts of the live animal with the various cuts of meat derived from its carcass.

A detailed explanation of how the values assigned to the crops and back were arrived at will make clear the method of determining the values of the various parts as shown on the chart.

The crops and back of the live animal are approximately the parts that go to make up the cut or part of the carcass from which the rib chops are obtained. When calf and vealer carcasses are divided into cuts, corresponding to the wholesale cuts of beef obtained from a carcass of beef by the regular "Chicago method of cutting," the cut corresponding to the wholesale beef cut known as the rib, is, on the average, 9 per cent of the calf or vealer carcass. Thus, on a purely quantitative basis, the crops and back, or the parts of the live animal that go to make up the carcass cut designated as the rib, would have a value of 9 per cent, when the carcass or the total of all the parts had a value of 100 per cent. On the grading chart, however, only 70 per cent of the total of 100 per cent has been credited to all the different parts of the live animal under the heading "Detailed description." Therefore 70 per cent of 9 per cent, or 6.3 per cent, is the value that should be assigned to the crops and back (or rib) in a straight quantitative basis.

The ribs, however, furnish one of the most valuable cuts of meat obtained from calf and vealer carcasses; hence the crops and back which go to make up the rib have been increased in value so as to reflect the quality of the cuts of meat which are eventually obtained from these parts of the live animal.

The value which should be assigned to these parts on account of their relatively high quality was arrived at by taking the monthly average prices which representative Chicago retailers received for Good grade calf and vealer carcasses and their retail cuts for a period of four years ending with the year 1926. During this period the price of rib chops from a Good grade carcass sold for 117.74 per cent as much as that of calf and vealer carcasses of the same grade. Therefore the quantity value of 6.3 per cent previously arrived at was multiplied by its quality value of 117.74 per cent, making a total value of approximately 7.42 per cent representing the value of the rib on a combined quantitative and qualitative basis. Obviously the crops and back, or those parts of the live animal from which the rib chops were obtained, should have approximately the same value of 7.42 per cent on the chart.

Accordingly, on the chart, the crops and back were given a combined value of 7 per cent, 3 per cent being assigned to the crops and 4 per cent to the back. The value of 3 per cent assigned to the crops was equally divided between the conformation and finish of this part, a value of 1.5 per cent being given to each of these two factors. The value of 4 per cent assigned to the back was also divided equally between the conformation and finish of this part, each of these factors as shown on the chart having a value of 2 per cent. Values for the conformation, and in most instances for the finish, of each of the other parts of the live animal, which are shown on the chart, were arrived at by the same method.

In using the chart, each minor item listed under the heading "General description," and the conformation or both the conformation and finish of each part listed under "Detailed description," are each graded or judged separately and the adjudged value or degree of perfection of the animal with respect to each item is checked off on the chart, and this value is transferred to the column headed "Detailed score." For example, the animal may be given a value of 1.83 in compactness, or any other one of the 20 other values which appears after the characteristic of compactness, these values ranging from 2 per cent down to 0.4 per cent according to the degrees of perfection of the animal in respect to compactness. Each other characteristic, and the conformation and finish of each part as noted, is also graded and given a value which represents its degree of perfection or nearness of approach to the ideal.

The total of all these values determines the grade of the animal. If the sum of all the different values totals between 96.67 per cent and 100 per cent, or nearest the percentage grade division of 98.33 per cent on the chart, which represents the spread or range in grade or quality for the top third of the Prime or No. A1 grade, the animal would grade top Prime or No. A1. Again if the total of all the different values were 85.9 per cent the animal would grade medium Choice or No. 1 as 85.9 per cent falls nearest the percentage grade division of 85 per cent which represents the spread in grade or quality extending from 83.33 per cent to 86.67 per cent or the middle third of the Choice or No. 1 grade.

These illustrations emphasize the fact that, although each grade has a certain width and covers a certain range which includes a number of different degrees of variation or perfection in the phys-

ical characteristics of an animal listed under the headings "General description" and "Detailed description" on the chart, and that although an animal may vary greatly in respect to the degree of perfection of one or more of its parts and other general physical characteristics, still the grade of an individual animal or group of animals occupies a specific point within the grade or range in quality.

In the descriptions of the grades of slaughter calves and vealers which follow, no attempt is made to describe all the possible combinations of the various degrees of perfection of the different physical characteristics and the various degrees of perfection of the conformation and finish of the various parts of the animal listed on the chart, which different animals of the same grade may possess.

In each instance the grade description given is for an animal which may be considered as typical of the grade and whose degree of perfection of each physical characteristic given under the heading "General description," and whose degree of perfection of the conformation and finish of each part shown under the heading "Detailed description," are the same, and are such that they place the animal at a point about midway of the range for the grade.

GRADE DESCRIPTIONS OF SLAUGHTER CALVES

There are six grades of slaughter calves: Prime or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, and Cull or No. 5.

PRIME OR NO. A1 GRADE SLAUGHTER CALVES

Prime or No. A1 grade slaughter calves are very nearly ideal in conformation, finish, and quality. They are rectangular and very compact in general shape or build. Top line and underline are very nearly straight and level and the lines of the sides are very nearly straight and parallel. The head is very short and wide and the neck is very short and thick. The body is very wide and deep in proportion to its length. The legs are set very wide apart and are very short in proportion to depth of body. The shoulders, crops, back, loin, thigh, and twist are very thickly fleshed and the lines of each of these parts are very full, plump, and well rounded. The animal is of approximately the same width through the shoulder, back, loin, and rump. The different parts are developed and balanced so that the animal has very nearly the highest possible percentage of its weight in back, loin, rump, thigh, and twist, or in those parts which furnish the higher-priced cuts of meat.

The animal has a thick covering of fat over the back and loin, and a moderately thick covering over the top of the shoulders and the rump, and is very smooth over the shoulders, crops, back, loin, hips, and rump. There are large deposits of fat over the brisket, in the flank, and in the crotch, especially around the udder, cod, or scrotum, and these parts are decidedly full and well rounded.

The animal is exceptionally neat, trim, and clean-cut in appearance, reflecting the very best of beef-type breeding, handling, and care. The bones of the legs are of medium size and the hide is mod-

erately thick and very pliable. The hair is fine, soft, and silky and has a decided gloss, luster, or sheen. The animal's breeding and degree of fatness indicate that the muscle or lean meat of its carcass will contain a very high percentage of intramuscular and intercellular fat.

With the factor of fill eliminated, individuals of this grade (fig. 1) have a very high dressing percentage. Their carcasses have a very high percentage of flesh, a very large percentage of which, relatively speaking, is fat, and almost the lowest possible percentage of bone.

Individuals of this grade are always very high-grade or crossbred animals of beef-type breeding. They are extremely scarce at all markets, and are offered only occasionally at any market. They

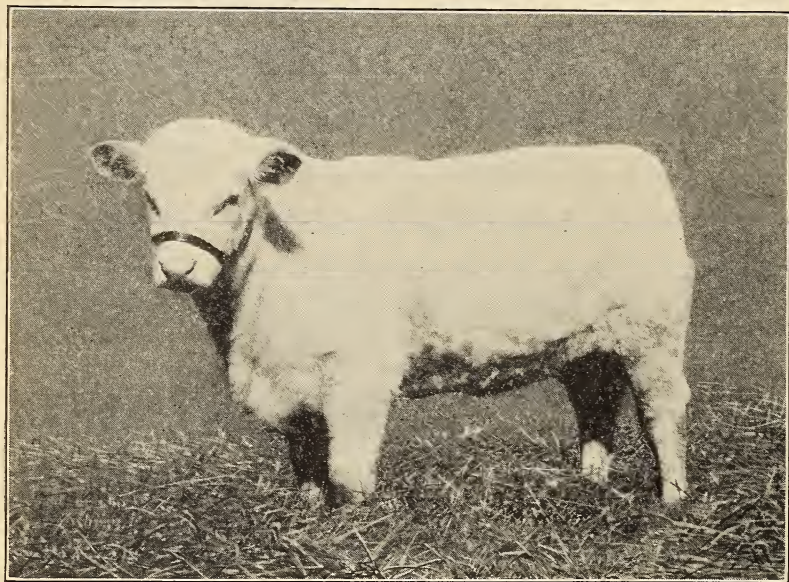


FIG. 1.—Prime grade slaughter calf

usually come from farms in the Corn Belt which are practicing an intensive system of beef raising.

CHOICE OR NO. 1 GRADE SLAUGHTER CALVES

Choice, or No. 1 grade, slaughter calves are markedly superior in conformation, finish, and quality. Their general build or shape is approximately rectangular and is compact. Top line and underline are nearly straight and level and the lines of the sides are nearly straight and parallel. The head is short and wide and the neck is short. The body is wide and deep in proportion to its length. Legs are set wide apart and are short in proportion to depth of body. The shoulders, crops, back, loin, rump, thigh, and twist are thickly fleshed and the lines of each of these parts are full, plump, and well rounded. The animal is of approximately the same width through the shoulders, back, loin, and rump. The different parts are

developed and balanced in such a way that the animal has a high percentage of its weight in the back, loin, rump, twist, and thigh, or in those parts which will furnish the higher-priced cuts of meat when the animal is finally slaughtered.

The animal has a moderately thick covering of fat over the back and loins and a moderately thin covering over the tops of the shoulders and rump, and is smooth over these parts. There are moderately large deposits over the brisket, in the flank, and in the crotch, especially around the udder, cod, or scrotum, and these parts are moderately full and rounded out.

The general appearance of the animal is neat and trim, reflecting very superior beef-type breeding, feeding, care, and handling. The

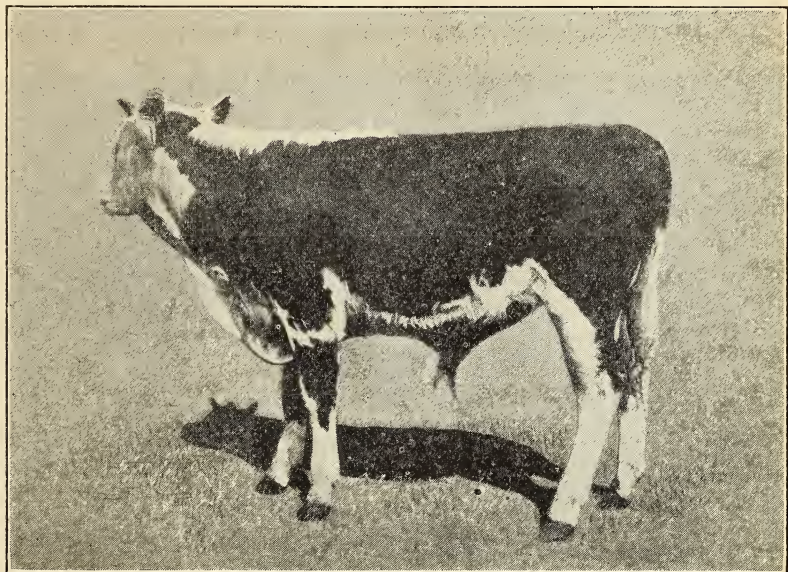


FIG. 2.—Choice grade slaughter calf

bones of the legs are of medium size and the hide is moderately thick and pliable. The hair is fine, soft, and silky. The animal's degree of fatness and its breeding indicate that there will be a very high percentage of intramuscular and intercellular fat in the muscle or lean meat of its carcass.

With the factor of fill eliminated, individuals of this grade (fig. 2) have a high dressing percentage. Their carcasses have a high percentage of flesh (fat and lean meat combined), of which, relatively speaking, a large proportion is fat and a very low percentage of bone. Individuals of this grade are almost invariably crossbreds or high-grade animals of beef-type breeding. They are relatively scarce at all markets, but considerable numbers of them are usually received at the larger central markets during the late summer and fall months. During the remainder of the year they are found only rarely at any market.

GOOD OR NO. 2 GRADE SLAUGHTER CALVES

Good, or No. 2 grade, slaughter calves have a moderately high degree of conformation, finish, and quality. They tend to be rectangular and are moderately compact. Top line and underline tend to be straight and level and the lines of the sides tend to be straight and parallel. The head is moderately short and wide and the neck is moderately short. The body is moderately wide and deep in proportion to its length. The legs are moderately short in proportion to depth of body and are set moderately wide apart. The flesh of the shoulders, crops, back, loin, rump, thigh, and twist is moderately thick and the lines of each of these parts are moderately full, plump, and rounded out. The animal tends to have the same width of body through the shoulders, back, loin, and rump. The different parts of the animal are developed and balanced in such a way that the animal

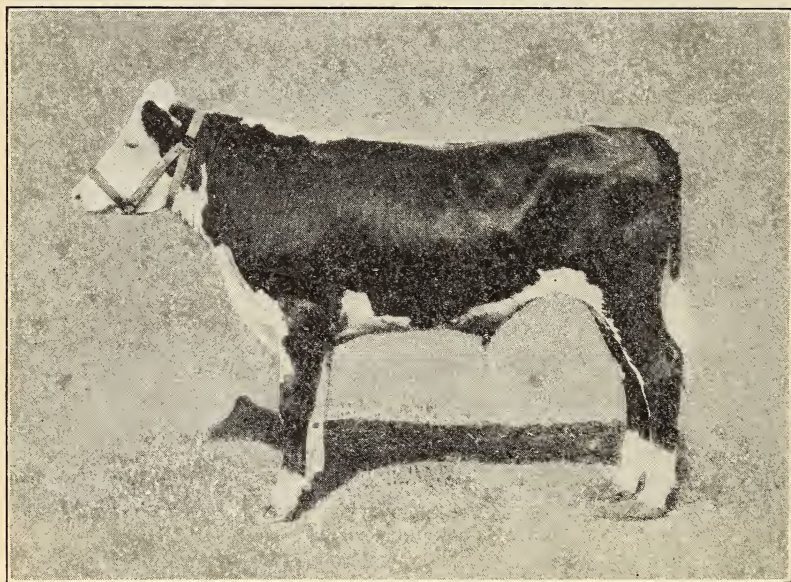


FIG. 3.—Good grade slaughter calf

has a moderately high proportion of its weight in back, loin, rump, twist, and thigh, or in those parts which will supply the higher-priced cuts of meat when the animal is finally slaughtered.

The animal has a slightly thin covering of fat over the back and loin and a very thin covering over the top of the shoulders and rump, together with a moderately high degree of smoothness over these parts. There are slightly small deposits of fat over the brisket, in the flank, and in the crotch, especially around the udder, cod, or scrotum, and these parts appear slightly empty.

The animal is either slightly too coarse or too refined. The bones of the legs are either slightly too large or too small and the hide is slightly too thick or too thin, but is moderately pliant. The hair is fine and moderately soft and silky. The degree of fatness and the breeding of the animal indicate that the muscle or lean meat of its

carcass will have a moderately large percentage of intramuscular and intercellular fat.

With the factor of fill eliminated, individuals of this grade (fig. 3) have a moderately high dressing percentage. Carcasses obtained from them have a moderately high percentage of flesh, a moderately large proportion of which, relatively speaking, is fat, and a low percentage of bone. They are usually crossbreds or high-grade individuals of beef-type breeding. They are marketed in liberal numbers during the late summer and fall months, but at other seasons of the year, at most markets, relatively small numbers of them are on sale.

MEDIUM OR NO. 3 GRADE SLAUGHTER CALVES

Medium or No. 3 grade slaughter calves are slightly deficient in conformation, finish, and quality. They are slightly angular and

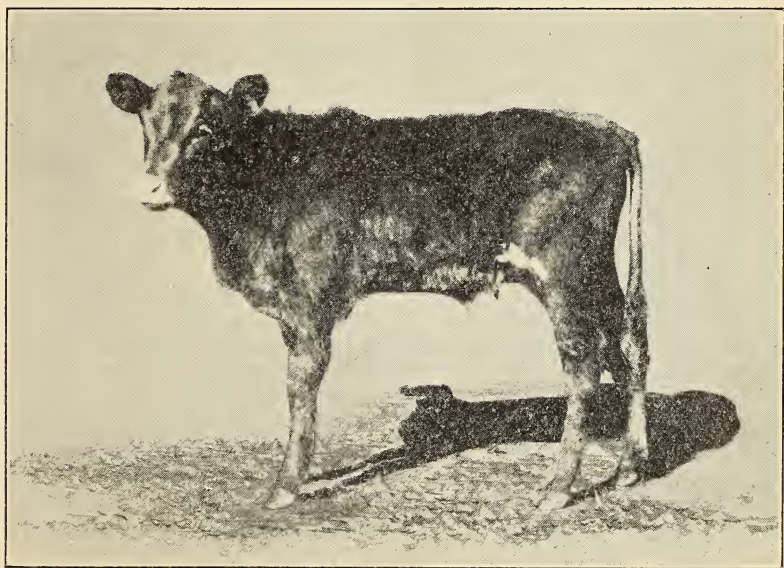


FIG. 4.—Medium grade slaughter calf

rangy as regards general shape or build. The head is slightly long and narrow and the neck is slightly long and thin. The top line and underline, and the lines of the sides, are slightly irregular and oblique. The body is slightly narrow in proportion to its length. The legs are slightly long in proportion to depth of body and are set slightly too close together. The fleshing of the shoulders, crops, back, loins, rump, twist, and thigh is slightly thin and the lines of each of these parts are slightly empty, sunken, or hollowed out. The width of body through the shoulders, back, loin, and rump varies slightly. The different parts of the animal are so developed and balanced that the animal carries a slightly low percentage of its weight in back, loin, rump, twist, and thigh or in those parts which will supply the higher-priced cuts of meat when the animal is finally slaughtered.

The fat covering over the top of the shoulders and rump is extremely thin and is very thin over the back and loins. The bones of the shoulders, the hips, and much of the backbone are slightly prominent. There are small deposits of fat over the brisket, in the flank, and in the crotch, especially around the udder, cod, or scrotum, but these parts are decidedly empty in appearance.

The animal is either slightly too coarse or too refined. The bones of the legs are slightly too large or too small and the hide is slightly too thick or too thin and is slightly unpliant. The hair tends to be dry and harsh and is slightly lacking in oiliness. The animal's degree of fatness and breeding indicates that it will have a slightly low percentage of intramuscular and intercellular fat in the muscle or lean meat of its carcass.

With the factor of fill eliminated, slaughter calves of this grade (fig. 4) have a slightly low dressing percentage. Their carcasses have a slightly low percentage of flesh, a slightly low proportion of the flesh in fat, relatively speaking, and a moderately large percentage of bone. Slaughter calves of this grade are mostly individuals of pronounced beef-type breeding but usually show more or less of the physical characteristics of animals which are of dairy type, scrub, or nondescript breeding. They are found usually throughout the year at most large markets and during the late summer and fall months the supply generally exceeds the demand.

COMMON OR NO. 4 GRADE SLAUGHTER CALVES

Common or No. 4 grade slaughter calves are very deficient in conformation, finish, and quality. They are very angular and rangy. The top line and underline and the lines of the sides are very irregular and oblique. The head is very long and narrow and the neck is very long and thin. The body is very narrow in proportion to its length. The legs are very long in proportion to depth of body and are set very close together. The fleshing of the shoulders, crops, back, loin, and rump is very thin and the lines of each of these parts are very empty, sunken, and hollowed out. The width of the animal through the shoulders, back, loin, and rump varies to a very great extent. The different parts of the animal are developed and balanced in such a way that it has a very small percentage of its weight in back, loin, rump, twist, and thigh or in those parts which will supply the higher-priced cuts of meat when the animal is slaughtered.

The animal has no apparent covering of fat over the top of the shoulders or rump and only an extremely thin covering over the back and loin. It is decidedly rough over these parts and the bones of the shoulders, hips, and the backbone are decidedly prominent. There are only small deposits of fat over the brisket, in the flank, and in the crotch around the udder, cod, or scrotum, and these parts appear decidedly empty or lacking in fat.

The animal is either very coarse or very refined and the bones of the legs either very large or very small. The hide is either very thick or very thin and is decidedly unpliant. The hair is dry and harsh to a marked degree. The animal's degree of finish and its

breeding indicate that the lean meat or muscle of its carcass will have a low percentage of intramuscular and intercellular fat.

With the factor of fill eliminated, individuals of this grade (fig. 5) have a low dressing percentage. Their carcasses have a low percentage of flesh, only a low percentage of which, relatively speaking, is fat, and a large percentage of bone.

Slaughter calves of this grade are only occasionally individuals of pronounced beef-type breeding but are, as a rule, animals in which physical characteristics resulting from dairy-type, scrub, or non-descript breeding predominate. They are received usually throughout the year at markets which are tributary to sections of the country where dairying is the principal livestock industry. They are more



FIG. 5.—Common grade slaughter calf

or less numerous at practically all markets throughout the year and during the late spring and fall months they are especially numerous.

CULL OR NO. 5 GRADE SLAUGHTER CALVES

Cull or No. 5 grade slaughter calves are extremely deficient in conformation, finish, and quality. They are extremely angular and rangy. The top line and underline and the lines of the sides are extremely irregular and oblique. The head is extremely long and narrow and the neck is extremely long and thin. Both head and neck are extremely narrow in proportion to length of body. The legs are extremely long in proportion to depth of body and are set very close together. The fleshing of the shoulder, back, loin, rump, thigh, and twist is extremely thin and the lines of each of these parts are extremely empty, sunken, or hollowed out. The width of the animal through the shoulder, back, loin, and rump varies greatly.

The different parts of the animal are so developed and balanced that the animal has, relatively speaking, an extremely low percentage of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat.

The animal has no apparent covering of fat. Even the back and loin, from all indications, are entirely devoid of fat. It is extremely rough over the shoulders, hips, and rump, the bones of the shoulders and hips are extremely prominent, and most of the backbone and much of the bones of the ribs are sharply outlined. There are no discernible deposits of fat in the brisket, in the flank, or in the crotch around the udder, cod, or scrotum.

Individuals of this grade are extremely refined or extremely coarse and the bones of the legs are either very small or very large. The



FIG. 6.—Cull grade slaughter calf

hide is either very thin or very thick and is usually very unpliant. The hair is very dry and harsh. The animal's very evident lack of finish and its breeding indicate that the muscle or lean meat of its carcass will contain a very small percentage of intramuscular and intercellular fat.

With the factor of fill eliminated, animals of this grade (fig. 6) have an extremely low dressing percentage. Their carcasses have an extremely low percentage of flesh, an extremely low percentage of which, relatively speaking, is fat, and an extremely high percentage of bone.

They are almost invariably either of a very pronounced dairy type, scrub, or nondescript breeding. They come, for the most part, from sections of the country where dairying is the principal kind of farming. They are found throughout the year at most markets,

especially at markets tributary to the chief dairy sections of the country. Receipts are especially large, generally much in excess of the demand, during the late summer and fall months.

GRADE DESCRIPTIONS OF VEALERS

There are six grades of vealers: Prime or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, Cull or No. 5.

PRIME OR NO. A1 GRADE VEALERS

Prime or No. A1 grade vealers are very nearly ideal in conformation, finish, and quality. They are rectangular and compact in general shape or build. Top line and underline are very nearly

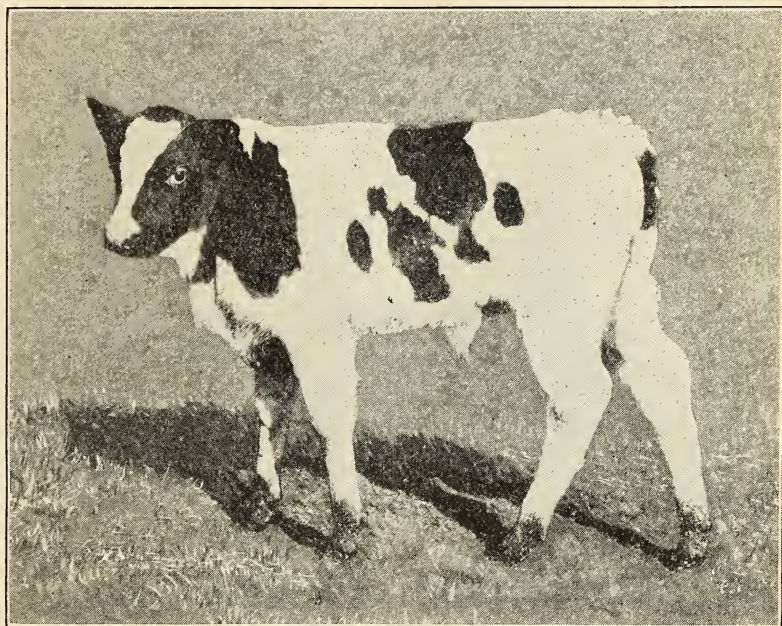


FIG. 7.—Prime grade vealer

straight and level and the lines of the sides are very nearly straight and parallel. The head is very short and wide and the neck is very short and thick. Both head and neck are very wide and deep in proportion to length of body, and the legs are very short in proportion to depth of body and are set very wide apart. The shoulders, back, loin, rump, thigh, and twist are very thickly fleshed and the lines of each of these parts are full, plump, and well rounded. The animal is of approximately the same width through the shoulders, back, loin, and rump. The different parts of the animal are so developed and balanced that it has very nearly the largest possible percentage, or relatively speaking, a very high percentage of its weight in back, loin, rump, thigh, and twist, or in those parts from which the higher-priced cuts of meat are obtained.

There is a slightly thin covering of fat over the back, loin, rump, and the top of the shoulders, and the animal is very smooth over the shoulders, back, loins, hips, and rump. There are large deposits of fat over the brisket, in the flanks, and in the crotch, especially around the udder or scrotum, the amount of fat being indicated by a marked degree of fullness in these parts.

The general appearance of the animal is very neat and trim, reflecting superior breeding, feeding, handling, and care. The bones of the legs are of medium size and the hide is moderately thick and very pliable. The hair is fine and silky and usually has a decided gloss, luster, or sheen. The breeding of the animal and its degree of finish indicate that the muscle or lean meat of its carcass will have a large percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 7) have a very high dressing percentage. Their carcasses have a very large percentage of flesh a relatively high percentage of which is fat, and a very small percentage of bone.

They are almost invariably crossbred or high-grade individuals of beef type, but may be of dairy breeding. They are usually very scarce at all markets at all seasons of the year, but during the late spring and early summer months considerable numbers of them are received at some of the largest markets. They are usually from 4 to 8 weeks old and usually weigh from 140 to 180 pounds.

CHOICE OR NO. 1 GRADE VEALERS

Choice or No. 1 grade vealers are markedly superior in conformation, finish, and quality. They are approximately rectangular and have a high degree of compactness. Top line and underline are very nearly straight and level and the lines of the sides are very nearly straight and parallel. The head is short and wide and the neck is short and thick. Such vealers are wide and deep in proportion to length of body, and the legs which are short in proportion to depth of body and are set wide apart. The shoulders, back, loin, rump, twist, and thigh are thickly fleshed and the lines of each of these parts are moderately full, plump, and rounded. The animal is of nearly the same or uniform width through the shoulders, back, loin, and rump. The different parts of the animal are so developed and balanced that it has, relatively speaking, a high percentage of its weight in back, loin, rump, thigh, and twist, or in those parts from which the higher-priced cuts of meat are obtained.

There is a thin covering of fat over the back, loin, rump, and the top part of the shoulders, and the animal is moderately smooth over these parts and the hips. There are moderately large deposits of fat over the brisket, in the flank, and in the crotch, especially around the udder or scrotum, which are indicated by the moderate degree of fullness of these parts.

The animal has a moderate degree of refinement and the bones of the legs are of medium size. The hide is moderately thick and pliable and the hair is fine and silky and has a decided gloss, luster, or sheen. The animal's degree of finish and its breeding indicate that the muscle or lean meat of its carcass will have a moderately large percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 8) have a high dressing percentage. Their carcasses have a high percentage of flesh, a large proportion of which is fat, and a small percentage of bone, relatively speaking.

Many vealers of this grade are of beef-type or dual-purpose cattle breeding but a considerable number of them are from the larger breeds of dairy-type cattle. They are regularly on sale at most markets, especially at the principal markets for vealers, throughout the year. The season of greatest supply occurs during April, May, and June. They are usually from 3 to 6 weeks old and usually weigh from 110 to 140 pounds.



FIG. 8.—Choice grade vealer

GOOD OR NO. 2 GRADE VEALERS

Good or No. 2 grade vealers have a moderately high degree of conformation, finish, and quality. In general build or shape they tend to be rectangular and compact. Top line and underline tend to be straight and level and the lines of the sides tend to be straight and parallel. The head is moderately short and wide and the neck is moderately short and thick. Both head and neck are moderately wide and deep in proportion to length of body, and the legs are moderately short in proportion to depth of body and are set moderately wide apart. The flesh which covers the shoulders, back, loin, rump, thigh, and twist is moderately thick. The lines of each of these parts are slightly empty, sunken, or hollowed. The width of the animal through the shoulders, back, loin, and rump varies slightly. The different parts of the animal are so developed and balanced that it has, relatively speaking, a moderately high percentage of its weight in back, loin, rump, thigh, and twist, or in those parts from which the higher-priced cuts of meat are obtained.

There is a very thin covering of fat over the back and loin. The animal is slightly rough over the shoulders, back, loins, hips, and rump and the bones of these parts are slightly prominent. There are rather small deposits of fat over the brisket, in the flank, and in the crotch, the small degree of fat being indicated by a slight degree of emptiness of these parts.

The animal is either slightly too refined or too coarse and the bones of the legs are either slightly too small or too large. The hide is either slightly too thin or too thick and is slightly unpliant. The hair is slightly dry and harsh and lacks the gloss, luster, or sheen characteristic of the hair of vealers of a higher degree of

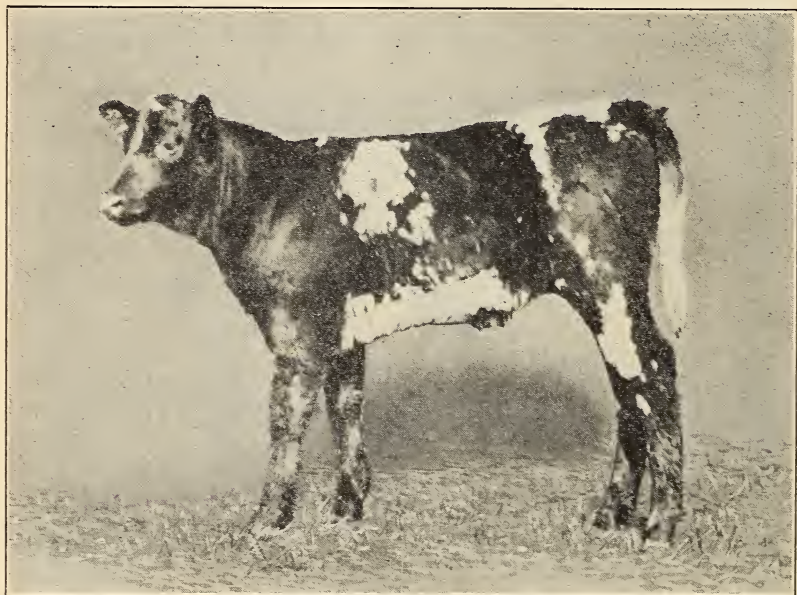


FIG. 9.—Good grade vealer

quality. The animal's degree of finish and its breeding indicate that the muscle or lean meat of its carcass will have a slightly small percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 9) have a moderately high dressing percentage. Their carcasses have a moderately high percentage of flesh, a moderately large proportion of which is fat. Carcasses of good vealers have a slightly small percentage of bone.

Individuals of this grade may be of any type of breeding, but the grade includes relatively few animals in which the blood or characteristics of the smaller breeds of dairy-type cattle predominates. They weigh usually from 100 to 120 pounds and are generally from 3 to 6 weeks old. At the principal markets for vealers they are on sale regularly throughout the year; the season of largest supplies occurs during April, May, and June.

MEDIUM OR NO. 3 GRADE VEALERS

Medium or No. 3 grade vealers are slightly deficient in conformation, finish, and quality. They are slightly angular and rangy in their general build or shape. Top line and underline and the lines of the sides are slightly irregular and oblique. The head is slightly long and narrow and the neck is slightly long and thin. The body is slightly narrow in proportion to its length and the legs which are slightly long in proportion to depth of body are set slightly near together. The flesh covering the shoulders, back, loin, rump, thigh, and twist is slightly thin and the lines of these parts are slightly empty, sunken, or hollowed. The width of the animal through the shoulders, back, loin, and rump varies considerably. The different parts of the animal are so developed and balanced that, relatively speaking, it has a slightly low percentage of its

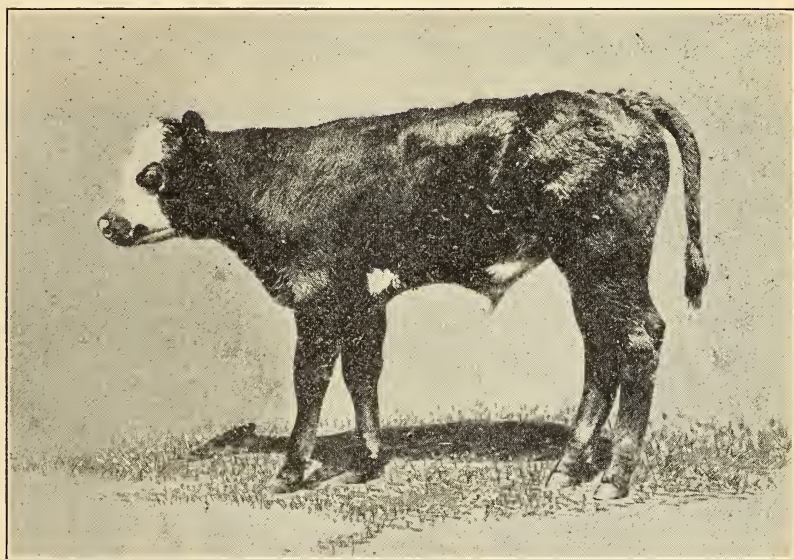


FIG. 10.—Medium grade vealer

weight in the back, loin, rump, twist, and thigh, or in those parts from which the higher-priced cuts of meat are obtained.

There is an extremely thin covering of fat over the back and loin and the animal has a high degree of roughness over the shoulders, back, loin, hips, and rump, the bones of these parts being prominent to a marked degree. There are very small deposits of fat over the brisket, in the flank, and in the crotch around the udder or scrotum, the lack of fat deposits being indicated by a high degree of emptiness in these parts.

The animal is either slightly too refined or too coarse and the bones of the legs either slightly too small or too large. The hide is either slightly too thin or too thick and is slightly unpliant. The hair is slightly dry and harsh and lacks the luster, gloss, or sheen which is characteristic of the hair of vealers of Choice and Prime

quality. The animal's degree of finish and its breeding indicate that the muscle or lean meat of its carcass will have only a small percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 10) have a slightly low dressing percentage. Their carcasses have a slightly low percentage of flesh, a slightly small percentage of which is fat. Such carcasses also have a moderately large percentage of bone.

A considerable number of individuals of this grade are beef-type breeding but they are largely of dairy-type, scrub, or non-descript breeding. They usually weigh from 90 to 110 pounds and are usually from 3 to 6 weeks old. They are regularly on sale at the principal markets for vealers throughout the year, the season of largest marketings extends from about April 1 to July 1 of each year.

COMMON OR NO. 4 GRADE VEALERS

Common or No. 4 grade vealers are very deficient in conformation, finish, and quality. Their general build or shape is very angular



FIG. 11.—Common grade vealer

and rangy. Top line and underline and the lines of the sides are very irregular and oblique. The head is very long and narrow and the neck is very long and thin. Both head and neck are very narrow in proportion to length of body and the legs are very long in proportion to depth of body and are set very close together. The flesh covering of the shoulders, back, loin, rump, thigh, and twist is very thin and the lines of each of these parts are very empty, sunken, or hollowed. The width of the animal through the shoulders, back, loin, and rump varies to a very great extent. The different parts of the animal are so developed and balanced that, relatively speaking, the

animal has a very low percentage of its weight in the back, loin, rump, twist, and thigh or in those parts from which the higher-priced cuts of meat are obtained.

There is no apparent fat covering over the shoulders, back loin, or rump and the animal is very rough over these parts. The bones of the shoulders, hips, and much of the backbone are all very prominent. There are extremely small deposits of fat over the brisket, in the flank, and in the crotch around the udder or scrotum, the lack of fat deposits being indicated by a very high degree of emptiness in these parts.

The animal is either very refined or very coarse and the bones of the legs are either very small or very large. The hide is either very thin or very thick and is very unpliant. The hair is very coarse and very dry and harsh. The animal's very evident lack of finish and its breeding indicate that the muscle or lean meat of its carcass will have a very small percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 11) have a very low dressing percentage. Their carcasses have a very low percentage of flesh a very small proportion of which is fat, and a large percentage of bone, relatively speaking.

Animals of this grade may be of beef-type breeding, but they are almost invariably of dairy-type, scrub, or nondescript breeding. They vary from about 90 pounds up to 180 pounds in weight, but generally weigh from 120 pounds downward. For the most part they are less than 6 weeks old, but some of them range up to approximately 3 months of age. They are regularly on sale throughout the year at the principal markets for vealers; their season of greatest supply is almost identical with that of other grades of vealers.

CULL OR NO. 5 GRADE VEALERS

Cull or No. 5 grade vealers are extremely deficient in conformation, finish, and quality. They are extremely angular and rangy in general build or shape. Top line and underline and the lines of the sides are extremely irregular and oblique. The head is extremely long and narrow and the neck is extremely long and thin. The body is extremely narrow in proportion to its length and the legs are extremely long in proportion to depth of body and are set extremely close together. The flesh which covers the shoulders, back, loin, and rump is extremely thin and the lines of these parts are extremely empty, sunken, or hollowed. The width of the animal through the shoulders, back, loin, and rump varies to almost the greatest possible extent. The different parts of the animal are so developed and balanced that, relatively speaking, the animal has an extremely low or nearly the lowest possible percentage of its weight in back, loin, rump, twist, and thigh or in those parts from which the higher-priced cuts of meat are obtained.

It is very evident that there is no fat covering over the shoulders, back, loin, or rump and the animal is very rough over these parts. The bones of the shoulders, hips, and much of the backbone are extremely prominent and the major portion of the bones of the ribs are also plainly outlined. To all appearances there are no deposits of fat over the brisket, in the flank, or in the crotch around the udder or scrotum.

The animal is either extremely refined or extremely coarse. The bones of the legs are either extremely small or extremely large. The hide is either extremely thin or extremely thick and is extremely unpliant. The hair is extremely dry and harsh, as a rule. The animal's extreme lack of finish and its breeding indicate that the muscle or lean meat of its carcass will have an extremely small percentage of intramuscular and intercellular fat.

Individuals of this grade (fig. 12) have an extremely low dressing percentage. Their carcasses have an extremely low percentage of flesh, practically none of which is fat, and a very large percentage of bone.

Cull or No. 5 grade vealers may be of pronounced beef-type breeding but are almost invariably of dairy-type, scrub, or nondescript breeding. As a rule, they weigh less than 100 pounds and are usually

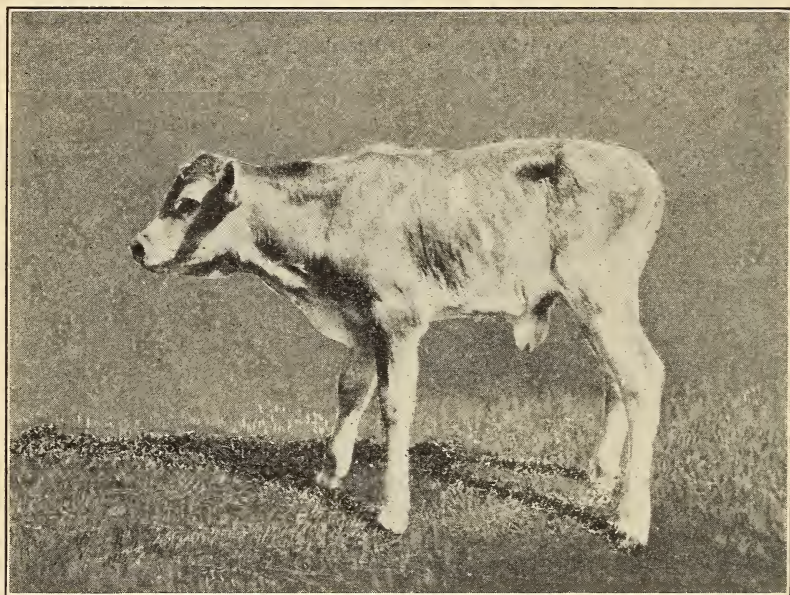


FIG. 12.—Cull grade vealer

not over 3 weeks old, although a considerable number of individuals of this grade range up to 8 or more weeks in age. They make a relatively very small percentage of the receipts of vealers at any market.

FEEDER AND STOCKER CALF SCHEDULE

Feeder and stocker calves may be defined as immature bovine animals usually over 3 months old which, for a considerable length of time, have subsisted in part or entirely on other feeds than milk, and which are bought and sold on the market for feeder and stocker uses.

From the above definition it is apparent that the terms feeder and stocker, when applied to calves, do not have as much significance as they do in the case of feeder and stocker cattle, since on the market the term feeder usually applies to cattle which are 18 months or over in age, and the term stocker usually applies to cattle that are less

than 18 months old. A similar distinction is not made on the market with regard to feeder and stocker calves. In actual market practice calves which are much alike are frequently sold to one man as feeders and to another as stockers. In practically all instances determination of the use to which they shall be put depends entirely upon the opinion and circumstances of the purchaser and not to any extent upon the animals themselves.

On the market, feeder and stocker calves of different sex condition, weight, conformation, finish, and quality sell at widely different prices largely because of differences in value which they will probably have after they have been fed and returned to market.

Thus different market classes, weight-selection groups and grades of feeder and stocker calves as indicated on the following schedule have arisen which are more or less generally recognized at most of the large central livestock markets.

During the greater part of each year, trading in calves for feeder and stocker purposes is of relatively little importance at most of the large central livestock markets. At the principal calf markets, however, large numbers of them are bought and sold for this use on each marketing day during the fall season when receipts of calves are usually at their peak. The principal markets for calves are Kansas City, Omaha, Denver, Fort Worth, and East St. Louis. During September, October, and November the trade in feeder and stocker calves is of great importance at these markets. During the same months trading in them is usually of considerable volume and importance at Chicago, Sioux City, St. Joseph, South St. Paul, and a few other of the larger and more important marketing centers.

Feeder and stocker calf schedule

Class	Weight selection	Grade
Steers-----	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
Heifers-----	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
Bulls-----	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Lightweight..... 350 pounds down.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.
	Heavyweight..... 350 pounds up.	{ Fancy or No. A1. Choice or No. 1. Good or No. 2. Medium or No. 3. Common or No. 4.

CLASSES OF FEEDER AND STOCKER CALVES

As shown in the schedule, there are three classes of feeder and stocker calves which are based on the sex condition of the animals.

A market class of feeder and stocker calves consists of a number of individuals composing a lot or group of feeder and stocker calves in which each animal has the same sex condition. Hence there are three market classes of feeder and stocker calves—steer, heifer, and bull.

As a general rule any kind of livestock is sorted or divided into different market classes which are based on sex condition because practically all animals possess physical characteristics of conformation, finish, and quality that are peculiar to all animals of the same sex condition. This is true, because in time sex condition causes marked changes in the physical characteristics of an animal which go to make up its conformation, finish, and quality. When these differences of conformation, finish, and quality of the live animals become pronounced they bring about marked differences in the quantity, quality, or grade of the carcass and by-products which the animals will produce when slaughtered.

In all but a few exceptional instances, the sex condition of feeder and stocker calves has not caused any marked changes in their conformation, finish, and quality, but the fact that they do have different sex condition insures that they will in time develop differences in conformation, finish, and quality which will seriously affect their market value. Hence, feeder and stocker calves of different sex condition usually sell at considerably different prices on the market, for buyers anticipate a difference in their market value when they are fed and returned to market as slaughter cattle. Moreover, on the market, bull calves of the same weight selection are usually of less value, grade for grade, than are either steer or heifer calves. This is due largely to the fact that they are usually castrated by the buyer after purchasing. He assumes this added risk of loss from death as well as the loss from the delay in getting the animals once more in gaining condition after castration.

WEIGHT SELECTIONS OF FEEDER AND STOCKER CALVES

Feeder and stocker calves of any one of the three classes show considerable variation or range in weight because of differences in age, type, breeding, feeding, handling, and care. Buyers at the market have decided preferences for different weights of feeder and stocker calves of the three classes, largely because of the systems followed in developing feeder and stocker calves, especially in respect to the length of the feeding period and methods of handling and feeding. Hence on the market, weight is a price factor of much importance and the classes of feeder and stocker calves are often sorted into lots according to their weight. In this bulletin these lots are designated as weight selections.

A weight selection may be defined as a group of feeder and stocker calves in which the weight of each individual in the group falls within certain specified limits. The weight selections generally used at livestock markets are shown in the feeder and stocker calf schedule, on page 33.

GRADES OF FEEDER AND STOCKER CALVES

Weight selections of feeder and stocker calves enable buyers at the market to purchase either steer, heifer, or bull calves of the desired weight, but calves of any of the different classes and of any given weight selection vary widely in quality and grade. Buyers at the market have decided preferences as to the grade of the animals they intend to feed and all feeders and stocker calves are, in the last analysis, bought and sold largely on the basis of their grade. Without doubt, grade is the most important price factor contributing to market value. Therefore, as the final step in the classifying and grading process, the weight selections of feeder and stocker calves are usually sorted into a number of grades.

Grade is determined by an animal's degree of merit for a given market use, as shown by the degree of conformation, finish, and quality it possesses when bought and sold.

In market practice there are five rather generally recognized grades of feeder and stocker calves: Fancy or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, and Common or No. 4.

It would be possible to have another grade of feeder and stocker calves—namely, an inferior or No. 5 grade—as calves having an extremely low degree of conformation, finish, and quality are not included in the Common or No. 4 grade, which is the lowest grade regularly traded in on the market. However, calves having a lower degree of conformation, finish, and quality than the Common or No. 4 grade are very rarely, if ever, traded in at the market as feeders and stockers. As a rule, such calves are sold to slaughterers as Cull or No. 5 grade slaughter calves. Hence, an inferior or No. 5 grade of feeder and stocker calves is not considered in this bulletin.

The grades of feeder and stocker calves which are regularly traded in at the market are directly correlated with corresponding grades of slaughter cattle which it is thought they will produce when finished and returned to the market. Hence, the values assigned to the various physical characteristics of conformation, finish, and quality of the animal which are shown later, in the feeder and stocker calf grading chart, are identical with those shown in the feeder and stocker cattle grading chart. A detailed explanation of the basis of these values and the way in which they were arrived at is given in a department bulletin.¹ For this reason it is not deemed necessary to repeat the explanation in this bulletin.

In the description of the grades of feeder and stocker calves, which follow the grading chart, no attempt is made to describe all the possible combinations of the various degrees of perfection of the physical characteristics of an animal's conformation, finish, and quality which different animals of the same grade may possess. In each instance the grade description given is for an animal which may be considered as typical of the grade.

¹ SLATER, D. J. MARKET CLASSES AND GRADES OF CATTLE. U. S. Dept. Agr. Bul. 1464. 88 pp., illus. 1927.

FEEDER AND STOCKER CALF GRADING CHART

Lot No. ----- Individual No. -----	Age ----- Weight -----	Breed ----- Class -----			Date ----- Grade -----			Town ----- State -----									
Description of feeder and stocker animal	Values assigned to parts and grade factors	Fancy or No. 1 (range, 100 to 90 per cent)			Choice or No. 1 (range, 90 to 80 per cent)			Good or No. 2 (range, 80 to 70 per cent)			Medium or No. 3 (range, 70 to 60 per cent)			Common or No. 4 (range, 60 to 50 per cent)			Total score of animal
		Top, 98.33%	Medi-um, 95.00	Low, 91.66%	Top, 88.33%	Medi-um, 85.00	Low, 81.66%	Top, 78.33%	Medi-um, 75.00	Low, 71.66%	Top, 68.33%	Medi-um, 65.00	Low, 61.66%	Top, 58.33%	Medi-um, 55.00	Low, 51.66%	
		Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent		
	General description:																
Conformation—		Very compact			Compact			Moderately compact			Slightly rangy			Rangy			
Compactness-----	3.5	3.44	3.32	3.21	3.09	2.98	2.86	2.74	2.62	2.51	2.39	2.28	2.16	2.04	1.92	1.81	
Width-----	2.0	1.97	1.90	1.83	1.77	1.70	1.63	1.57	1.50	1.43	1.37	1.30	1.23	1.17	1.10	1.03	
Depth-----	2.5	2.46	2.38	2.29	2.21	2.12	2.04	1.96	1.88	1.79	1.71	1.62	1.54	1.46	1.38	1.29	
Top line-----	1.5	Straight and level			Straight and level			Straight and level			Slightly irregular and oblique			Irregular and oblique			
Underline-----	1.0	Straight and level			Straight and level			Straight and level			Slightly irregular and oblique			Irregular and oblique			
Side lines-----	1.5	Straight and parallel			Straight and parallel			Straight and parallel			Slightly irregular and oblique			Irregular and oblique			
Total 1-----	12.0	11.80	11.40	11.00	10.60	10.20	9.80	9.40	9.00	8.60	8.20	7.80	7.40	7.00	6.60	6.20	
Finish—		Moderately thick			Moderately thick			Slightly thin			Thin			Very thin			
Thickness-----	1.5	1.48	1.42	1.38	1.32	1.28	1.22	1.18	1.12	1.08	1.02	.98	.92	.88	.82	.78	
Smoothness-----	1.5	1.48	1.42	1.38	1.32	1.28	1.22	1.18	1.12	1.08	1.02	.98	.92	.88	.82	.78	
Fullness of flank-----	.5	.49	.48	.46	.44	.42	.41	.39	.38	.36	.34	.32	.31	.29	.28	.26	
Fullness of twist-----	.5	.49	.48	.46	.44	.42	.41	.39	.38	.36	.34	.32	.31	.29	.28	.26	
Uniform covering-----	1.0	.98	.95	.92	.88	.85	.82	.78	.75	.72	.68	.65	.62	.58	.55	.52	
Total 1-----	5.0	4.91%	4.75	4.58%	4.41%	4.25	4.08%	3.91%	3.75	3.58%	3.41%	3.25	3.08%	2.91%	2.75	2.58%	

Quality— Refinement	4.0	Moderately refined 3.93 3.80 3.67 Moderately thick and pliable	Moderately refined 3.53 3.40 3.27 Moderately thick and pliable	Slightly too coarse or refined 3.13 3.00 2.87 Slightly too thick or thin, slightly unpliant	Slightly too coarse or refined 2.73 2.60 2.47 Slightly too thick or thin and unpliant	Very coarse or refined 2.33 2.20 2.07 Very thick or thin, very unpliant
Hide	2.0	1.97 1.90 1.83 Fine	1.77 1.70 1.63 Fine	1.57 1.50 1.43 Moderately fine	1.37 1.30 1.23 Slightly coarse	1.17 1.10 1.03 Very coarse
Hair	1.5	1.48 1.42 1.38 Medium size	1.32 1.28 1.22 Medium size	1.18 1.12 1.08 Slightly too large or small	1.02 .98 .92 Soft	.88 .82 .78 Very large or small
Bone	1.5	1.48 1.42 1.38 Firm	1.32 1.28 1.22 Moderately firm	1.18 1.12 1.08 Slightly soft	1.02 .98 .92 Soft	.88 .82 .78 Very soft
Flesh	1.0	.98 .95 .92 Very quiet	.88 .85 .82 Quiet	.78 .75 .72 Moderately quiet	.68 .65 .62 Slightly nervous	.58 .55 .52 Very nervous
Disposition	1.5	1.48 1.42 1.38 Very desirable	1.32 1.28 1.22 Desirable	1.18 1.12 1.08 Moderately desirable	1.02 .98 .92 Slightly undesirable	.88 .82 .78 Undesirable
Color	1.5	1.48 1.42 1.38 Very desirable	1.32 1.28 1.22 Desirable	1.18 1.12 1.08 Moderately desirable	1.02 .98 .92 Slightly undesirable	.88 .82 .78 Undesirable
Total 1	13.0	12.78% 12.35 11.91%	11.48% 11.05 10.61%	10.18% 9.75 9.31%	8.88% 8.45 8.01%	7.58% 7.15 6.71%
Total general descrip- tion 1	30.0	29.50 28.50 27.50	26.50 25.50 24.50	23.50 22.50 21.50	20.50 19.50 18.50	17.50 16.50 15.50
Detailed description:						
Head— Conformation	2.00	Very short and wide 1.97 1.90 1.83	Short and wide 1.77 1.70 1.63	Moderately short and wide 1.57 1.50 1.43	Slightly long and narrow 1.37 1.30 1.23	Long and narrow 1.17 1.10 1.03
Neck— Conformation	1.50	Very short 1.48 1.42 1.38	Short 1.32 1.28 1.22	Moderately short 1.18 1.12 1.08	Slightly long 1.02 .98 .92	Long .88 .82 .78
Brisket— Conformation	1.50	Moderately full 1.48 1.42 1.38	Moderately full 1.32 1.28 1.22	Slightly deficient 1.18 1.12 1.08	Deficient 1.02 .98 .92	Very deficient .88 .82 .78
Chest— Conformation	2.00	Very wide and deep 1.97 1.90 1.83	Wide and deep 1.77 1.70 1.63	Moderately wide and deep 1.57 1.50 1.43	Slightly narrow and shallow 1.37 1.30 1.23	Narrow and shallow 1.17 1.10 1.03
Shoulder— Conformation	6.00	Wide and deep 5.90 5.70 5.50	Wide and deep 5.30 5.10 4.90	Moderately wide and deep 4.70 4.50 4.30	Slightly narrow and shallow 4.10 3.90 3.70	Narrow and shallow 3.50 3.30 3.10
Finish	3.00	Moderately thick 2.95 2.85 2.75	Moderately thick 2.65 2.55 2.45	Slightly thin 2.35 2.25 2.15	Thin 2.05 1.95 1.85	Very thin 1.75 1.65 1.55
Forelegs— Conformation	1.00	Very short .98 .95 .92	Short .88 .85 .82	Moderately short .78 .75 .72	Slightly long .68 .65 .62	Very long .58 .55 .52
Crops— Conformation	2.00	Moderately full 1.97 1.90 1.83	Moderately full 1.77 1.70 1.63	Slightly deficient 1.57 1.50 1.43	Deficient 1.37 1.30 1.23	Very deficient 1.17 1.10 1.03
Finish	1.00	Moderately thick .98 .95 .92	Moderately thick .88 .85 .82	Slightly thin .78 .75 .72	Thin .68 .65 .62	Very thin .58 .55 .52
Back— Conformation	4.0	Straight and wide 3.93 3.80 3.67	Straight and wide 3.53 3.40 3.27	Moderately straight and wide 3.13 3.00 2.87	Slightly low and narrow 2.73 2.60 2.47	Low and narrow 2.33 2.20 2.07
Finish	2.0	Moderately thick 1.97 1.90 1.83	Moderately thick 1.77 1.70 1.63	Slightly thin 1.57 1.50 1.43	Thin 1.37 1.30 1.23	Very thin 1.17 1.10 1.03

¹ Individual items were rounded and therefore do not add exactly to the totals.

FEEDER AND STOCKER CALF GRADING CHART—Continued

Description of feeder and stocker animal	Values assigned to parts and grade factors	Fancy or No. A1 (range, 100 to 90 per cent)			Choice or No. 1 (range, 90 to 80 per cent)			Good or No. 2 (range, 80 to 70 per cent)			Medium or No. 3 (range, 70 to 60 per cent)			Common or No. 4 (range, 60 to 50 per cent)			Total score of animal
		Top, 98.33%	Medi-um, 95.00	Low, 91.66%	Top, 88.33%	Medi-um, 85.00	Low, 81.66%	Top, 78.33%	Medi-um, 75.00	Low, 71.66%	Top, 68.33%	Medi-um, 65.00	Low, 61.66%	Top, 58.33%	Medi-um, 55.00	Low, 51.66%	
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	
Detailed description—Continued.																	
Ribs—																	
Conformation.....	1.5	Very long and well sprung	Long and well sprung	1.32	1.28	1.22	1.18	1.12	1.08	Slightly short and flat	0.98	0.92	0.88	0.82	0.78	Short and flat	
Finish.....	.5	Moderately thick	Moderately thick	.44	.42	.41	.39	.38	.36	Thin	.34	.31	.29	.28	.26	Very thin	
Belly—																	
Conformation.....	1.0	Not paunchy	Not paunchy	.88	.80	.82	.78	.75	.72	Slightly paunchy	.68	.65	.62	.58	.55	Very paunchy	
Rear flank—																	
Conformation.....	.5	Very low	Low	.44	.42	.41	.39	.38	.36	Moderately low	.34	.32	.31	.29	.28	Very high	
Finish.....	.5	Moderately thick	Moderately thick	.44	.42	.41	.39	.38	.36	Slightly thin	.34	.32	.31	.29	.28	Very thin	
Loin—																	
Conformation.....	10.0	Wide	Wide	8.83	8.50	8.17	7.83	7.50	7.17	Moderately wide	6.83	6.50	6.17	5.83	5.50	Narrow	
Finish.....	5.0	Moderately thick	Moderately thick	4.42	4.25	4.08	3.92	3.75	3.58	Slightly thin	3.42	3.25	3.08	2.92	2.75	Very thin	
Hips—																	
Conformation.....	3.0	Wide	Wide	2.65	2.55	2.45	2.35	2.25	2.15	Moderately wide	2.05	1.95	1.85	1.75	1.65	Narrow	
Finish.....	1.0	Moderately thick	Moderately thick	.88	.85	.82	.78	.75	.72	Slightly thin	.68	.65	.62	.58	.55	Very thin	
Rump—																	
Conformation.....	4.0	Uniformly wide	Uniformly wide	3.53	3.40	3.27	3.13	3.00	2.87	Moderately wide and peaked	2.73	2.60	2.47	2.33	2.20	Narrow and peaked	
Finish.....	2.0	Moderately thick	Moderately thick	1.77	1.70	1.63	1.57	1.50	1.43	Thin	1.37	1.30	1.23	1.17	1.10	Very thin	
Tail head—																	
Conformation.....	1.5	Even with back line	Even with back line	1.32	1.28	1.22	1.18	1.12	1.08	Tends to be even with back line	1.02	.98	.92	.88	.82	High or drooped	
Finish.....	.5	Moderately thick	Moderately thick	.44	.42	.41	.39	.38	.36	Thin	.34	.32	.31	.29	.28	Very thin	
Thigh—																	
Conformation.....	4.0	Very wide and deep	Wide and deep	3.93	3.80	3.67	3.53	3.40	3.27	deep	2.73	2.60	2.47	2.33	2.20	Narrow and shallow	
Finish.....	2.0	Moderately thick	Moderately thick	1.97	1.90	1.83	1.77	1.70	1.63	Slightly thin	1.37	1.30	1.23	1.17	1.10	Very thin	

Twist— Conformation.....	4.0	Very deep			Deep			Moderately deep			Slightly shallow			Shallow		
		3.93	3.80	3.67	3.53	3.40	3.27	3.13	3.00	2.87	2.73	2.60	2.47	2.33	2.20	2.07
Finish.....	2.0	1.97	1.90	1.83	1.77	1.70	1.63	1.57	1.50	1.43	1.37	1.30	1.23	1.17	1.10	1.03
Hind legs—																
Conformation.....	1.0	.98	.95	.92	.88	.85	.82	.78	.75	.72	.68	.65	.62	.58	.55	.52
Total detailed descrip- tion ¹	70.0	68.83½	66.50	64.16½	61.83½	59.50	57.16½	54.83½	52.50	50.16½	47.83½	45.50	43.16½	40.83½	38.50	36.16½
Grand total.....	100.0	98.33½	95.00	91.66½	88.33½	85.00	81.66½	78.33½	75.00	71.66½	68.33½	65.00	61.66½	58.33½	55.00	51.66½

¹ Individual items were rounded and therefore do not add exactly to the totals.

GRADE DESCRIPTIONS OF FEEDER AND STOCKER CALVES

There are five grades of feeder and stocker calves: Fancy or No. A1, Choice or No. 1, Good or No. 2, Medium or No. 3, and Common or No. 4.

FANCY OR NO. A1 GRADE

Fancy or No. A1 grade feeder and stocker calves approach very closely the top of the standard of conformation, finish, and quality. They are rectangular and very compact in general shape or build. Top line and underline are approximately straight and level and the lines of the sides are very nearly straight and parallel. The head is very short and wide and the neck is very short. Both head and neck are very wide and deep in proportion to length of body, and the legs are set very wide apart and are very short in proportion to depth of body. The chest is very wide and deep and the animal has an exceptionally good middle being very full in the crops, and a very straight wide back and loin, very long, well-sprung ribs, and a belly which is very wide and deep but not paunchy. The flank is low. The hips and rump are wide and even and the tail head is even with the back line. The thigh is very wide and deep and the twist is very deep, the seam of the twist appearing very low. All parts are moderately thickly fleshed, causing the lines of shoulders, back, loin, rump, and thigh to appear moderately full, plump, and well rounded. The animal is of nearly uniform width through the shoulders, back, loins, and rump. The different parts are so developed and balanced that the animal, relatively speaking, has a very high percentage of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat when the animal is slaughtered.

The animal has sufficient fat covering over the tops of the shoulders, back, loin, and rump to make it decidedly smooth over these parts. There are moderately large deposits of fat over the brisket, in the flank and in the crotch, especially around the cod, udder, or scrotum, this condition being indicated by a moderate degree of fullness of these parts.

The animal is moderately refined and the bones of the legs are of medium size. The hide is moderately thick and pliable and the hair is fine, soft, and silky. The breeding of the animal indicates that it will have a tendency, during the fattening process, to deposit a very large percentage of its gain in fat in its muscles as intramuscular and intercellular fat.

Animals of this grade are high grade, crossbred, and occasionally purebred individuals of beef type. Load lots of this grade must be uniform in age, weight, color, and breeding. They are scarce at all markets but are usually found in limited numbers at a few of the larger markets during the late summer and fall months, but very rarely during other months of the year.

CHOICE OR NO. 1 GRADE

Choice or No. 1 grade feeder and stocker calves are markedly superior in conformation, finish, and quality. They are approximately rectangular and are compact in general shape or build. Top-

line and underline are approximately straight and level and the lines of the sides are nearly straight and parallel. The head is short and wide and the neck is short. Both head and neck are wide and deep in proportion to length of body, and the legs are set wide apart and are short in proportion to depth of body. The chest is wide and deep and the animal has a decidedly good middle, the crops being full with a straight, wide back and loin, the ribs being long and well sprung, the belly wide and deep but not paunchy, and the flank low. The hips are wide and the rump is wide and even, and the tail head is even with the back line. The thigh is wide and deep, and the twist is deep, and the seam of the twist is low. All parts are thick in fleshing which causes the lines of the shoulders, crops, back, loin, rump, and thigh to appear moderately full, plump, and well rounded. The animal has approximately the same width through the shoulders, back, loin, hips, and rump. The different parts are so balanced that the animal, relatively speaking, has a high percentage of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat when the animal is slaughtered.

The animal has a moderately thick fat covering over the tops of the shoulders, back, loin, and rump and is moderately smooth over these parts. There are moderately large deposits of fat over the brisket, in the flank, and in the crotch, especially around the cod, udder, or scrotum.

The animal is moderately refined and the bones of the legs are of medium size. The hide is moderately thick and pliable and the hair is fine, soft, and silky. The breeding of the animal indicates that it will have a tendency, during the fattening process, to deposit a large percentage of its gain in fat within its muscles as intramuscular and intercellular fat.

Animals of this grade are almost invariably high grade or cross-bred individuals of beef type. Load lots of this grade are often mixed as regards the different breeds of beef-type cattle and may vary considerably in age and weight as well as weight for age. Animals of this grade are usually on sale in fairly liberal numbers at most of the larger markets during the late summer and fall months but are offered only irregularly and in limited numbers during the remainder of the year.

GOOD OR NO. 2 GRADE

Good or No. 2 grade feeder and stocker calves have a moderately high degree of conformation, finish, and quality. In general shape or build, they tend to be rectangular and compact. Top line and underline tend to be straight and level and the lines of the sides tend to be straight and parallel. The head is moderately short and wide and the neck is moderately short. Both head and neck are moderately wide and deep in proportion to length of body, and the legs are set moderately wide apart and are moderately short in proportion to depth of body. The chest is moderately wide and deep and the animal has a good middle, is moderately full in the crops, and has a moderately wide back and loin, moderately long well-sprung ribs and a belly which is moderately wide and deep but slightly paunchy, and a moderately low flank. The hips are moder-

ately wide and the rump is moderately wide and even, but the tail head usually appears slightly high or drooped when compared with the rest of the top line. The thigh is moderately wide and deep, the twist moderately deep, and the seam of the twist moderately low. All parts are slightly thin in fleshing and the lines of the different parts appear slightly empty or sunken. The animal tends to be of the same or uniform width through the shoulders, back, loin, hips, and rump. The different parts are so developed and balanced that the animal, relatively speaking, has a moderately high percentage of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat when the animal is slaughtered.

The animal usually has a thin fat covering over the tops of shoulders, back, loin, and rump and appears slightly rough over these parts, the bones of each part being slightly prominent. There are small deposits of fat over the brisket, in the flank and crotch especially around the udder, cod, or scrotum.

The animal is usually either slightly too coarse or too refined the bones of the legs being either slightly too large or too small. The hide is either slightly too thick or too thin and is slightly unpliant. The hair is usually slightly dry and harsh. The breeding of the animal indicates that it will have a tendency during the fattening process to deposit a moderately large percentage of its gain in fat within its muscles as intramuscular and intercellular fat.

Animals of this grade are usually high-grade or crossbred individuals of beef type but some of them show traces of dairy-type breeding which is indicated by their color markings. Individuals contained in a load lot usually vary considerably in respect to the different breeds of beef-type cattle, in age and weight as well as in weight as related to age. These animals are usually on sale in liberal numbers at the larger markets during the late summer and fall months, and limited numbers of them can usually be obtained at the larger markets at most other times throughout the year.

MEDIUM OR NO. 3 GRADE

Medium or No. 3 grade feeder and stocker calves are slightly deficient in conformation, finish, and quality. They are slightly angular and rangy in general shape or build. Top line and underline and the lines of the sides are slightly irregular and oblique. The head is slightly long and narrow and the neck is slightly long. Both head and neck are slightly rangy, being slightly narrow in proportion to length of body and the legs are set slightly too close together and are slightly too long in proportion to depth of body. The chest is slightly narrow and often lacking in depth, and the animal has a slightly poor middle, being slightly sunken or hollow in the crops, and has a slightly narrow back and loin. It has slightly short flat ribs, a paunchy belly, and a slightly high flank. The hips are slightly narrow, and the rump is slightly narrow and peaked, the tail head being either high or dropped when compared with the rest of the top line. The thigh is slightly narrow and tapering, the twist is slightly shallow, and the seam of the twist slightly high. All parts of the animal are thinly fleshed, the lines of the shoulders, crop, back, loin, rump, and thigh appearing empty, sunken, and

hollow. The animal is slightly uneven in width through the shoulders, back, loin, and rump. The different parts are so balanced and developed that the animal, relatively speaking, has a slightly low percentage of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat.

The animal has a thin fat covering over the back and loin and appears rough over the shoulders, hips, and rump, and the bones of the shoulders, the hips, and much of the backbone are prominent to a marked degree. There are small deposits of fat over the brisket, in the flank, and in the crotch, especially around the udder, cod, or scrotum.

The animal is slightly too coarse or refined and the bones of the legs slightly too large or too small. The hide is slightly too thick or too thin and unpliant. The hair is dry and harsh. The breeding of the animal indicates that it will have a tendency during the fattening process to deposit a slightly small percentage of its gain in fat within its muscles as intramuscular and intercellular fat.

Individuals of this grade usually have at least a predominance of the color markings of one or the other of the different breeds of beef-type cattle. Their general conformation, however, indicates that they carry at least a moderately high percentage of the blood of animals of dairy-type, scrub, or nondescript breeding. At most of the larger markets the supply of such animals often exceeds the demands during the late summer and fall months, but as a rule they are offered in only limited numbers during the remainder of the year. Individuals in a given carload of calves of this grade usually vary considerably in breeding, age, and weight, particularly in weight for age.

COMMON OR NO. 4 GRADE

Common or No. 4 grade feeder and stocker calves are very deficient in conformation, finish, and quality. They are angular and rangy to a high degree in their general shape or build. The top line and underline and the lines of the sides are very irregular and oblique. The head is long and narrow and the neck is long. Both head and neck are very narrow in proportion to their length of body and the legs are set very near each other and are very long in proportion to depth of body. The chest is very narrow and the animal has a very poor middle, being sunken and hollow in the crops, a very narrow back and loin, very short, flat ribs, a very paunchy belly, and a very high flank. The hips are narrow, the rump is narrow and very peaked, and the tail head is very high or drooped, as compared with the rest of the top line. The thigh is very narrow and tapering, the twist is very shallow, and the seam of the twist very high. All parts of the animal are very thinly fleshed, the lines of the shoulders, crops, back, loin, rump, and thigh appearing very empty, sunken, and hollow. The animal is very uneven in its width through the shoulders, back, loin, and rump. The way in which the different parts are developed and balanced causes the animal to have a low percentage, relatively speaking, of its weight in back, loin, rump, twist, and thigh or in those parts which supply the higher-priced cuts of meat.

The very apparent lack of fat covering over the shoulders, back, loins, and rump causes the bones of the shoulders, the hips, and

much of the backbone to be very prominent, and many of the ribs are also plainly outlined. Apparently there are no deposits of fat over the brisket, in the flank, or in the crotch around the udder, cod, or scrotum.

The animal is either very coarse or very refined and the bones of the legs are either very large or very small. The hide is either very thick or very thin and is very unpliant and tight. The hair is very dry, harsh, and lifeless looking. The breeding of the animal indicates that it will have a tendency, during the fattening process, to deposit only a small percentage of its gain in fat within its muscles as intramuscular and intercellular fat.

Individuals of this grade indicate by their general conformation that they are of pronounced dairy-type, scrub, or nondescript breeding, but they generally have a predominance of the color markings characteristic of animals of beef-type breeding. Load lots of animals of this grade usually vary widely in breeding, age, and weight, particularly with respect to weight for age. The animals are marketed more or less liberally throughout the year at most markets, especially at markets nearest the principal dairy sections of the country, but during the fall months the supply of them is greatest, and is often considerably in excess of the demand.

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